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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/660,601

09/12/2003

R. Donald Grafton

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EXAMINER

RYCKMAN, MELISSA K

ART UNIT

PAPER NUMBER

3773

MAIL DATE

DELIVERY MODE

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/660,601

Applicant(s)

GRAFTON ET AL.

Examiner

MELISSA RYCKMAN

Art Unit

3773

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period **will** apply and **will** expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply **will**, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 4/28/09.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6,8-14 and 16-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6,8-14 and 16-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/28/09 has been entered.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 5, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grafton et al. (US 5964783) in view of Jenkins, Jr. (US 5571139).

Grafton teaches a bioabsorbable anchor body (col. 3, ll. 37) having a proximal end and a distal end; and a suture eyelet formed of a strand of a first suture (11) insert-molded into the bioabsorbable anchor body for receiving a second, knot-tying suture threaded through the suture eyelet (capable of receiving a second knot-tying suture, the applicant is not distinctly claiming the second suture, the applicant only has functional limitations), the first insert-molded suture having an intertwined shape (Fig. 1) to

increase the pullout strength of the suture from the anchor body. A drive socket at the proximal end (Fig. 6).

Grafton does not teach the suture eyelet being disposed completely within the anchor body, however Jenkins teaches the suture eyelet being disposed completely within the anchor body (Fig. 3B). It would have been obvious to one of ordinary skill in the art to have the suture eyelet orientation of Jenkins with the device of Grafton, as the suture eyelet would then be protected by the anchor during delivery and use, thus maintaining the structure of the eyelet.

Claims 1, 2, 3, 8, 9, 11, 12, 15, 16, 17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jenkins, Jr. (US 5571139) in view of Grafton et al. (US 5964783).

Jenkins Jr. teaches a suture anchor (1) comprising:

- a bioabsorbable (Column 3, proximate line 42) anchor body (13) having a proximal end and a distal end; and a suture eyelet (27 or 28) formed of a strand of suture (it is noted that knot 27 comprises a suture eyelet), the suture eyelet can receive a second, knot-tying suture therethrough (Fig. 3C, eyelet that is part of knot 27 is capable receiving the second suture 30) of the suture eyelet being disposed completely within the anchor body (Fig. 3c, there are two sutures and multiple suture eyelets), the first insert-molded suture having an intertwined shape (Fig. 3C) to increase the pullout strength of the suture from the anchor

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body (the eyelet inherently increases the pullout strength of the suture from the anchor body)

- wherein the suture anchor has a predetermined length and wherein the suture eyelet (28) is recessed from the proximal end of the anchor body by about one third of the predetermined length (fig. 3b)
- wherein the anchor body is provided with a drive socket (31) and the suture eyelet is disposed within the drive socket (fig. 3b)
- comprising a strand of a knot tying suture threaded through the suture eyelet (it is noted that the non-loop portion of the knot 27 or 28 is a strand of knot tying suture)
- wherein the anchor body is treaded from the proximal end to the distal end (fig. 1)
- wherein the anchor body has a constant outer diameter and a tapered inner diameter (fig. 2)
- the suture loop is a suture eyelet (28, when the loop is formed, there is an eyelet for the suture to pass through)

Jenkins Jr. fails to teach wherein the suture eyelet is insert-molded into the anchor body. Grafton teaches a suture anchor wherein a suture material is insert molded into the anchor body in order to increase pull out strength of the suture from the anchor body. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Jenkins Jr. with an insert-molded suture loop in order to increase pull out strength of the suture from the anchor body.

Claims 10, 14 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Jenkins Jr. and Grafton (5964783) and further in view of Grafton et al. (US 6319270).

The combination of Jenkins Jr. and Grafton (5964783) teaches all limitations of previous dependent claims 1, 9, 11, and 17 as previously described, but fails to teach wherein the anchor body has a constant outer diameter and a stepped tapered inner diameter and wherein the anchor thread extending between the proximal end and the distal end of the body has a crest which tapers from wide to narrow from the proximal end to the distal end of the body.

Grafton (6319270) teaches a suture anchor wherein the anchor body has a constant outer diameter and a stepped tapered inner diameter and wherein the anchor thread extending between the proximal end and the distal end of the body has a crest which tapers from wide to narrow from the proximal end to the distal end of the body in order to provide an increased percentage of thread surface area for each turn of the anchor, thus providing increased pull-out strength, and a decreased tendency for back-out (Column 2, proximate lines 1-10). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Jenkins Jr. and Grafton (5964783) as taught by Grafton (6319270) in order to provide an increased percentage of thread surface area for each turn of the anchor, thus providing increased pull-out strength, and a decreased tendency for back-out.

Claims 4 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Jenkins Jr. and Grafton (5964783) as previously described, and further in view of Jackson (US 6454772).

The combination of Jenkins Jr. and Grafton (5964783) teaches all limitations of preceding dependent claims 1 and 11, but fails to teach wherein the drive socket has at least one slot for receiving a corresponding protrusion on a driver head. Jackson teaches a threaded surgical implant, comprising a drive socket having a pair of slot tool receivers in order to receive a corresponding protrusion on a driving tool for effective delivery of the device to the tissue.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Jenkins Jr. and Grafton (5964783) with slot tool receivers as taught by Jackson in order to receive a corresponding protrusion on a driving tool for effective delivery of the device to the tissue.

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dreyfuss (6652563), and further in view of Grafton (5964783).

Dreyfuss teaches a suture anchor (6) comprising an anchor body (6) having a proximal end, a distal end, and a drive socket (132, Figs. 3 and 6) at the proximal end; a suture eyelet (122 and the most right portion of anchor in Fig. 5 for an eyelet), the suture eyelet is capable of receiving a second, knot-tying suture therethrough the suture eyelet being completely within the anchor body (Fig. 5), wherein the drive socket has at

least one slot (Fig. 3) for receiving a corresponding protrusion on a driver head for driving the suture anchor (Fig. 6), wherein the slot terminates distally in a suture hole (where 138 meets 122) provided within the anchor body (slot 132 terminates distal of 122 Fig. 5), the suture hole (where 138 meets 122) is transverse to a longitudinal axis of the anchor body (Fig. 5).

Dreyfuss does not teach a bioabsorbable anchor body or the suture eyelet is insert-molded into the anchor body. Grafton teaches a bioabsorbable (col. 3, ll. 36) suture anchor wherein a suture material is insert molded into the anchor body in order to increase pull out strength of the suture from the anchor body. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Dreyfuss with a bioabsorbable material, a bioabsorbable material is helpful because the suture anchor may not be needed permanently and removal of the anchor is unnecessary. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Dreyfuss with the anchor being bioabsorbable an insert-molded suture loop in order to increase pull out strength of the suture from the anchor body.

### ***Response to Arguments***

Applicant's arguments filed 4/6/09 have been fully considered but they are not persuasive. The applicant generally argues the following:

- Jenkins does not teach the first insert-molded suture having an intertwined shape to increase the pullout strength of the suture from the anchor body



The examiner respectfully disagrees with the applicant, Jenkins teaches the first insert-molded suture having an intertwined shape (Fig. 3C) to increase the pullout strength of the suture from the anchor body (the eyelet inherently increases the pullout strength of the suture from the anchor body).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MELISSA RYCKMAN whose telephone number is (571)272-9969. The examiner can normally be reached on Monday thru Friday 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jackie Ho can be reached on (571)-272-4696. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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MKR  
/Melissa Ryckman/  
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